DEAS 1076: 2021

ICS 67.220

DRAFT EAST AFRICAN STANDARD

Cinnamon (*Cinnamomum zeylanicum* Blume) — Specification

EAST AFRICAN COMMUNITY

First Edition 2021

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 006, Spices, condiments and culinary herbs.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

Cinnamon (*Cinnamomum zeylanicum* Blume) — Specification

1 Scope

This draft East Africa standard specifies the requirements, sampling and test methods for whole or ground (powdered) cinnamon which is the bark of the tree or shrub *Cinnamomum zeylanicum* Blume intended for human consumption

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Codex online guideline for pesticide residues in food

CODEX STAN 193, *Codex general standard for contaminants and toxins in food and feed*

EAS 38, *Labelling of pre-packaged foods — General requirements*

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

EAS 803, *Nutrition labelling — Requirements*

EAS 804, *Claims — General requirements*

ISO 927, *Spices and condiments — Determination of extraneous matter and foreign matter content*

ISO 930, *Spices and condiments — Determination of acid-insoluble ash*

ISO 939, *Spices and condiments — Determination of moisture content — Entrainment method*

ISO 948, *Spices and condiments — Sampling*

ISO 4833-1*, Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony count at 30 °C by the pour plate technique*

ISO 6571, *Spices, condiments and herbs — Determination of volatile oil content (hydrodistilation method)*

ISO 6579 (all parts), *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of salmonella*

ISO 16050, *Food stuffs — Determination of aflatoxin B1, and the total content of aflatoxin B1, B2, G1 and G2 in cereals, nuts and derived products — High-perfomance liquid chromatographic method*

ISO 21527-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0.95*

ISO 16649-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta –glucuronidase-positive Escherichia coli — Part 2: Colony count technique at 44ºC using 5-bromo-4-chloro -3-indolyl beta –D-glucuronide*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
cinnamon quill
full tube

scraped peel of the inner bark of mature plantation cinnamon shoots joined together by overlaps, the hollow of which has been filled with small pieces of the same peel and thereafter dried in the sun after air curing

3.2

extraneous matter

this includes foreign matter like chaff, dried leaves, stones, soil particles dust, dirt or any matter other than cinnamon

3.4
cinnamon chip
dried unpeelable bark of plantation cinnamon, inclusive of the outer bark, which has been obtained by beating or scraping the shoots

3.5
ground cinnamon
powder obtained by grinding cinnamon of the types considered in this International Standard, excluding all additives

3.6
whole cinnamon
all commercial forms of cinnamon except cinnamon powder

3.7
foxing
occurrence of reddish-brown patches on the surface of the quills, which may become dark brown with time

3.8
bale
package of any one particular grade of quills wrapped in a suitable material for export purposes

4 Requirements

4.1 General requirements

Cinnamon shall

a. have fresh and characteristic odour and flavour of cinnamon.

b. be free from foreign flavours, including mustiness.

c. be free from live insects, mould growth, mites and insect remains,

d. be practically free from dead insects, insect fragments and rodent contamination visible to the naked eye.

4.2 Specific requirements

4.2.1 Whole cinnamon and ground cinnamon shall comply with the requirements given in Table 1.

Table 1 — Specific requirements for whole and ground cinnamon

Characteristic	Requirements	Test method
Acid Insoluble Ash	2	ISO 930
Moisture content for whole, % (massfraction), max.	14	ISO 939
Moisture content for ground, % (mass fraction), max.	12	
Volatile oil for whole, ml/100 g,on dry basis, min.	1	ISO 6571
Volatile oil for ground, ml/100 g, on dry basis, min.	0.7	
Total ash, % (mass fraction),on dry basis, max.	7	ISO 928
Extraneous matter,% (mass fraction),max	1	ISO 927

4.2.2 Cinnamon shall be ground to such fineness that 98% of it passes through a sieve of 500 micron (0.500 mm).

5 Food additives

The use of food additives in cinnamon shall be in accordance with Codex Stan 192.

6 Contaminants

6.1 Pesticide residues

Pesticide residues in cinnamon shall not exceed maximum residue limits as established in the Codex online guideline for pesticide residues in food.

6.2 Heavy metals

Heavy metals in cinnamon shall not exceed maximum heavy metal limits as stipulated in CODEX STAN 193.

6.3 Aflatoxin limits

Total aflatoxin shall not exceed 10 µg/kg and aflatoxin B1 shall not exceed 5 µg/kg when tested with ISO 16050.

7 Hygiene

Cinnamon shall be manufactured and handled in a hygienic manner in accordance with EAS 39 and shall comply with the microbiological limits stipulated in Table 2 when tested in accordance with the methods specified therein.

Table 2 — Microbiological requirements for cinnamon (whole and ground)

S/No	Characteristic	Requirement	Test method
i.	Total plate count, cfu/g, max.	10^5	ISO 4833-1
ii.	Yeast and moulds, cfu/g, max.	10^4	ISO 21527-2
iii.	*Salmonella spp*., per 25 g	Absent	ISO 6579
iv.	*E coli*, MPN/g, max.	Absent	ISO 16649 -2

8 Packaging

Whole and ground cinnamon shall be packaged in food grade packaging material that secures the integrity and the safety of the product.

9 Labelling

In addition to the requirements of EAS 38, EAS 803 and EAS 804, each container shall be legibly and indelibly labelled with the following information:

a) "'Name of product "cinnamon chips/ quills and or ground/ powdered cinnamon".

b) trade name or brand name if any;

c) name, physical and postal address of manufacturer and / or packer;

d) batch or code number;

e) net weight in metric units;

g) storage conditions;

h) best before;

i) year of harvest; and

j) instructions for use.

k) country of origin

10 Sampling

Sample consignments of cinnamon in accordance with ISO 948.

Annex A
(informative)

Recommendations relating to storage and transport conditions

A.1 The containers of cinnamon should be stored in covered premises, well protected from the sun, rain and excessive heat.

A.2 The store room should be dry, free from objectionable odours and proofed against entry of insects and vermin. The ventilation should be controlled so as to give good ventilation under dry conditions and to be fully closed under damp conditions. In a storage warehouse, suitable facilities should be available for fumigation.

A.3 The containers should be so handled and transported that they are protected from the rain, from the sun or other source of excessive heat, from objectionable odours and from cross-infestation, especially in the holds of ships.

Bibliography

ISO 6538, *Cassia, Chinese type, Indonesian type and Vietnamese type [*Cinnamomum aromaticum *(Nees) syn.* Cinnamomum cassia *(Nees) ex Blume,* Cinnamomum burmanii *(C.G. Nees) Blume and* Cinnamomum loureirii *Nees] — Specification*